



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,667	08/22/2003	Takashi Koba	2018-768	8419
23117	7590	12/29/2005	EXAMINER	
NIXON & VANDERHYE, PC			DWIVEDI, VIKANSHA S	
901 NORTH GLEBE ROAD, 11TH FLOOR			ART UNIT	
ARLINGTON, VA 22203			PAPER NUMBER	

3746

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Tntn

Office Action Summary	Application No. 10/645,667	Applicant(s) KOB ET AL.	
	Examiner Vikansha S. Dwivedi	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule.17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/22/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on August 22nd 2003 was in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is considered by the examiner.

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Specification

The disclosure is objected to because of the following informalities:

Page 5, line 4 change --vies-- to --view--

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

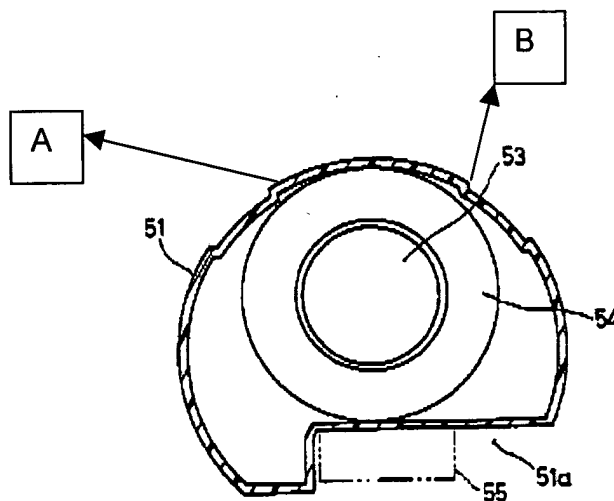
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 6, 7 and 8 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Mukaidani et al (US Patent Number 5,992,394) and Harris (US Patent Number 4,694,857)

Art Unit: 3746

Claim 1 discloses a fuel supply system that is installed inside a fuel tank that comprises of a fuel tank, a pump unit comprising of electric fuel pump. It has a connecting member to provide relative movement between the pump cover and the pump unit and also a through hole that axially supports the connecting member. It has grooves in the supporting portion that engage with the connecting member.

Mukaidani teaches a fuel tank (1, Figure 2 also described on Page 2) with a fuel pump (21, Figure 1). Mukaidani refers to his pump as "fuel pump" not "electrical fuel pump", though it is clear from the description and the Figure 2 which shows an electrical connector (14, Figure 2) that it is indeed an electrical fuel pump. It also discloses a connecting member as shown in figure 2 (42) and described on page 3, line 47 of the text, which Mukaidani refers to as connecting pipe.



Above Figure is Figure 3 of Mukaidani. The portion between A and B is a groove as disclosed in Claim 1.

Art Unit: 3746

Mukaidani sets forth a device as described above, which is substantially analogous to the claimed invention. The fuel supply device disclosed by Mukaidani differs from the claimed invention in that there is no explicit teaching of relative movement between the cover and the pump unit. Supporting portion lacks a through hole that penetrates through and receives the connecting member. Also, the supporting portion is not slidably engageable with the connecting member.

Harris discloses a fuel sender unit with a fuel tank. It further discloses a relative movement fixture between the sending and support member, which slidably engages. (Abstract, line 9 onwards, Page 5, line 47). The sending member fits the limitations of the connecting member as described by Koba.

Therefore it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the fuel supply device as disclosed by Mukaidani, Claim 1, as taught by Harris, in order to advantageously improve the system to withstand the sagging of the fuel tank.

With regard to **Claim 6** Mukaidani et al has stated very clearly on Page 1 lines 13-16 that the pump unit includes a sub-tank that has the fuel pump.

With regards to **Claim 7** Mukaidani et al shows support members 42 and 43 in Figure 2 that are located inside the sub tank and support the fuel tank.

Claim 8 is being rejected under 35 U.S.C. 103(a) as being unpatentable over Mukaidani et al (US Patent Number 5,992,394) in view of Harris (US Patent Number 4,694,857)

Additionally Mukaidani does not disclose support pipes outside of the support tank. Harris discloses support pipes 90 and 94 in figure1 that are located outside the sub tank.

At the time of invention it would have been obvious to one skilled in the art that placing the support members outside the fuel tank so that the pressure can be regulated by the fuel pump outlet.

Claim 2 is being rejected under 35 U.S.C. 103(a) as being unpatentable over Mukaidani et al in view of Harris as applied to Claim 1 and further in view of Walter (Patent Number WO0056564)

As set forth above Mukaidani et al in view of Harris discloses the invention substantially as claimed.

Claim 2 further discloses that the through hole should have at least one groove extending in the axial direction. Mukaidani lacks the teaching of the groove extending in the axial direction. Walter discloses that as in Figure 4A part number 166.

Therefore it would have been obvious to one of ordinary skill in the art at time the invention it would have been obvious to have extending grooves in order to have a secure mounting.

Claim 5 is being rejected under 35 U.S.C. 103(a) as being unpatentable over Mukaidani et al in view of Harris and further in view of Tuckey (Patent Number US 4831990 A)

As set forth above Mukaidani et al in view of Harris discloses the invention substantially as claimed.

Claim 5 adds that the supporting member and the connecting member should be of different material. Mukaidani does not teach that Claim limitation. Tuckey discloses a support column 54 (Figure 2 and Page 3, line 15-16) and a valve stem 56, which is a connecting member for valve element and lever (Page 3 line 18-20). Tuckey does not define element 56 as a connecting member but in its broadest sense a connecting member is a member that connects to members. It is clear from Figure 2 that member 56 is made out of some kind of metal and member 54 is made of some kind of resin/plastic. So, the supporting and the connecting member disclosed by Tuckey are made out of two different materials.

Therefore it would have been obvious to one of ordinary skill in the art at time the invention it would have been obvious to have the connecting and supporting members to be made of two different materials to strengthen the assembly by decreasing friction thereby stopping it from wearing away.

Claim 9 and 10 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Mukaidani et al in view of Harris (US Patent Number 4,694,857) as applicable to claim 1 and further in view of Kleppner (US Patent Number 6,305,417 B1)

Art Unit: 3746

As set forth above Mukaidani et al in view of Harris discloses the invention substantially as claimed.

With respect to Claim 9 Harris teaches the placement of support portion outside the sub-tank. Kleppner teaches the grooves in the outer periphery of the sub-tank.

At the time of invention it would have been obvious to one skilled in the art to have recess in the support section position to have feeding passage for the sub-tank.

With respect to Claim 10 Harris teaches the placement of support portion outside the sub-tank. Kleppner teaches the projection of the support portion radially outward (Figure 1, upper portion) engageable at the end of the connecting member which is at the opposite end.

At the time of invention it would have been obvious to one skilled in the art to use the teachings of Kleppner over Harris to have the passage of the pump clear and avoid any clashes that can result in the damage of the pump.

Allowable Subject Matter

Claim 3 and 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 3746

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikansha S. Dwivedi whose telephone number is 571-272-7834. The examiner can normally be reached on M-F, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VSD


CHARLES G. FREAY
PRIMARY EXAMINER